

### **Amendments To The Specification**

On page 1 of the replacement specification that was filed November 25, 2005, replace the third full paragraph of page 1 with the following amended paragraph:

Generally, about 0.9-1.1% U-235 remains in the spent fuel assembly discharged from the pressurized water reactor of a nuclear power plant and some fissile materials such as 0.6% of Pu-239 and 15% of Pu-241 etc. newly are generated. They are usable resources.

On page 3 of the replacement specification that was filed November 25, 2005, replace the second full paragraph of page 3 (which is the second full paragraph of the Summary of the Invention) with the following amended paragraph:

The invention claimed is a low-temperature NPP spent fuel reactor, wherein a core of the reactor is made up of the fuel assemblies, upper and lower core grid plates, control rods and drive mechanisms thereof. The fuel assemblies are fixed with the upper and lower core grid plates. Each of the control rods is inserted from the top of the core into a lattice made up of upper and lower core grid plates and the fuel assemblies. The upper end of the control rod is connected with its drive mechanism. The core is located in a core vessel located under a core pool, which core pool is provided with coolant inlet and outlet nozzles, which are connected with a heat exchanger through pipes. NPP spent fuel is directly used as nuclear fuel. ~~and light water is used as coolant and moderator in the reactor.~~ A sealing cover, on the top

of the core pool, is filled with a certainly pressurized gas to constitute a pressurized air cavity forming a primary air shield. Additionally, on the top of the core pool there is provided an airtight shield to form a secondary air shield. A pressurizer or a large pool is connected with the coolant inlet nozzle to improve the static pressure and maintain the pressure at core outlet. Within the core pool there is an underwater handling canal, which is connected with a spent fuel storage pond and an additional schema of reloading water layer is replaced by the under water handling canal. A residual heat cooler is provided in the spent fuel storage pond and an electromagnetic valve is arranged at a connection tube connecting the core vessel with the residual heat cooler to constitute a passive residual heat removal system.

On page 8 of the replacement specification that was filed November 25, 2005, replace the fourth full paragraph of page 8 with the following amended paragraph:

Take a pool reactor ~~an example for Qinshan NPP spent fuel assembly~~ ~~pool reactor~~ with normal temperature and pressure (1 bar at the surface of the pool and the average temperature under 100°C), composed of spent fuel assemblies discharged from Qinshan Nuclear Power Plant, as an example, 121 spent fuel assemblies (the same number as that in the core of Qinshan nuclear power plant) are used, with light water as both coolant and moderator, and the thermal power of the reactor core is 200MW. The effective multiplication factor for the neutron chain reaction device is about 1.05, and the heat energy, neutron and gamma produced by the device can

be used in relative fields.